

system affords thermal stability for the compositions. It was pointed out during the discussion that it is the surfactant system itself which forms the direct and/or cubic phase and is therefore different from a surfactant interspersed between unstable hexagonal bubble structures as described in the prior art. For example, in one embodiment of the surfactant system, the system is comprised of a water-soluble and a water-insoluble surfactant (see Claim 4). The prior art cited does not describe the selection of such surfactants.

As a result, it was discussed that the claimed composition is not described in the prior art cited by the Examiner under 35 U.S.C. § 103(a) because there is no description for such surfactant systems as in the present claims.

Dahms (U.S. patent 5,911,981) describes surfactant-containing liquids that upon dispersion with air or gas yields foam (for example, shaving cream) (see col 1, lines 5-15 and 39-50). In addition, while Dahms does describe hexagonal structures (col. 2 and Figures 2-4), these hexagonal structures are unstable bubbles resulting from the dispersion of a air into a surfactant liquid. Around these hexagonal bubbles is a lamellar phase of surfactants which stabilize the bubbles and in turn stabilize the foam. However, the Office has confused a paracrystalline structure of a surfactant system and a hexagonal bubble with a lamellar phase of surfactant around the bubble. As discussed during the interview and reiterated here, these are NOT the same.

This confusion is compounded by the mischaracterization of Dahms on page 6 of the Office Action. Therein it is stated:

Dahms et al. clearly discloses his stable foaming wet composition comprising a surfactant system generating a large volume of a stable foam therein containing lamellar phase, also known as paracrystalline phase (see col. 11, lines 3-24) such as direct hexagonal phase and cubic phase (Fig. 2, 7, 9-10 and col.3 lines 61 to col.4 line 30).

First, nowhere in the patent does Dahms state anything concerning a paracrystalline phase, hexagonal phase or a cubic phase and particularly not in column 11 or the figures referred to in support of the argument. Second, Dahms does not equate its' lamellar surfactant structure with a paracrystalline phase and Dahms would not do so because a lamellar phase and a paracrystalline phase are known to be distinct resulting from and dependent on the surfactant system chosen.

As noted above, Dahms et al describe the surfactant as having a lamellar structure (see col. 11, lines 6-21), which is also depicted in the figures in Dahms where the only hexagonal-like structure shown and discussed is the shape of a bubble as it degrades from its more stable round shape. In addition, Applicants attach hereto a publication by James Cook, one of the inventors of the '981 patent, published by Cosmetics and Toiletries Manufacture Worldwide (www.ctmw.com). This article present the same data as in the '981 patent. Applicants refer the Examiner attention to the Cook publication, page 2, col. 1-2, which describes this evolution of bubble structure from the spherical shape to the more unstable dry hexagonal shape. This is precisely the same figure and description shown in US '981 as Figure 2 and discussed in the paragraph bridging col. 1-2.

In addition, Applicants refer the Examiner's attention to the 4th page of the Cook publication, which include Figures 5 and 6. As described by Mr. Cook in column 2 of that page:

As illustrated in **figure 5**, SLS initially produced a foam possessing a semipolyhedral structure with distinct lamellar crystalline structures. After ageing for 15 minutes (Refer to **Figure 6**), the **semipolyhedral structure of the bubbles** was maintained, however, **the thickness of the lamellae was reduced, thereby indicating a drain-out of the aqueous phase from the foam.**

From this it is clear that the only hexagonal-like, i.e., semipolyhedral, structure present in the Dahms composition is the bubble whereas the surfactant component exhibits a lamellar phase, which is different from a paracrystalline phase. To further highlight these differences, Applicants direct the Examiner's attention to Table I from *Advances in Liquid Crystals* (Brown, G. H. (ed.) (1975) Academic Press) which was submitted with Applicants previous response. For convenience, a copy is again attached. This publication clearly illustrates that the structure itself is a distinct physical feature, which is inherently dependent on the selection of surfactants. In this publication, lamellar structures (1, 2, and 3 in the Table) are characterized by "Coherent double layers of amphiphilic molecules with the polar groups in the interfaces with the intervening layers of water molecules." In contrast a hexagonal structure is characterized as "Indefinitely long, mutually parallel rods in hexagonal array, with a hexagonal or circular cross-section; the rods consist of more or less radially arranged amphiphilic molecules." As a result it is clear that a paracrystalline phase relates to a crystalline structure which is physically different from a surfactant system that forms a lamellar phase at the temperatures recited in the present claims. This is the same description of lamellar vs. paracrystalline phases that have already been provided by the Applicants on page 7 of the present application.

Thus, a significant difference between the present invention and Dahms rests in the fact that Dahms does not describe or suggest selecting a surfactant system, for example, a water-soluble and water-insoluble surfactant, such that the surfactant system would exhibit a paracrystalline phase at temperature. In fact, Dahms could not suggest selecting the surfactant to form a paracrystalline phase because the purpose of Dahms' surfactants is to stabilize bubbles with a lamellar phase in a foaming composition, rather than to stabilize cream compositions with a structured surfactant system.

This description of Dahms is consistent with actual physical data, which was provided in the Declaration filed with the previous response. While the Examiner's discounted the evidence presented as non-persuasive, Applicants ask that the Examiner reconsider her position in as much as the data illustrates the distinctions discussed above. Contrary to the assertion on page 7 of the Office Action, the data presented in Exhibit 3 is a side-by-side comparison at the same temperature under optical microscopy. These data show that there was a distinct and characteristic paracrystalline phase exhibited by the present Example 1 which was notably absent from the Dahms formulation. Again, this is illustrative of the difference of selecting a surfactant system exhibiting a paracrystalline phase and selecting surfactants that exhibit a lamellar phase.

As discussed in prior responses, Erilli describes a liquid detergent composition with water soluble nonionic surfactants: "[a]ll of the aforesaid ingredients in this light duty liquid detergent are water soluble or water dispersible and remain so during storage" (col. 7, lines 1-3 of Erilli). Therefore, like Dahms, Erilli does not describe a paracrystalline phase (see page 10, lines 20-23 of the present specification, which describes that a paracrystalline phase comprises a water-soluble surfactant and a water-insoluble surfactant) or a foaming cream composition as in the present claims. Ribier (U.S. patent 5,601,833) describes compositions containing multiple dispersions of active agent-containing lipid vesicles (see col. 2, lines 10-53). However, Riber, like Dahms, Erilli, does not describe a paracrystalline phase or a foaming cream composition as in the present claims.

In light of this discussion, when one combines the disclosures of Dahms, Erilli, and Ribier there is still no description or suggestion to select a surfactant system which exhibits a paracrystalline phase at temperature. A strict requirement of establishing a *prima facie* case of

obviousness is that “all claim limitations must be taught or suggested by the prior art.” (MPEP 2143.03 citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). Here, the combination of prior art does not in any way suggest selecting a surfactant system such that it exhibits a paracrystalline phase because the prior art is not concerned with providing such structured surfactant systems nor providing thermal stability to cream compositions. In fact, there is no evidence of record that prior to the present invention, one would select a surfactant system exhibiting a paracrystalline phase to provide thermal stability to cream compositions with active agents. As a result the present claims simply would not have been obvious to one of skill in the art in view of Dahms, Erilli and Ribier.

In light of the above, Applicants request withdrawal of the rejection under 35 U.S.C. § 103.

Applicants again request that the Examiner consider (and initial as having been considered) all references submitted with the Information Disclosure Statement filed June 13, 2002. In particular, Applicants note that WO 99/51716 was not initialed in the returned signed copy of the PTO Form 1449 attached to the Office Action, Paper No. 9. Therefore, a copy of this PTO 1449 indicating that WO 99/51716 has been considered is requested.

Applicants submit that the present application is in condition for allowance. Early notice of such allowance is requested.

Respectfully submitted,

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